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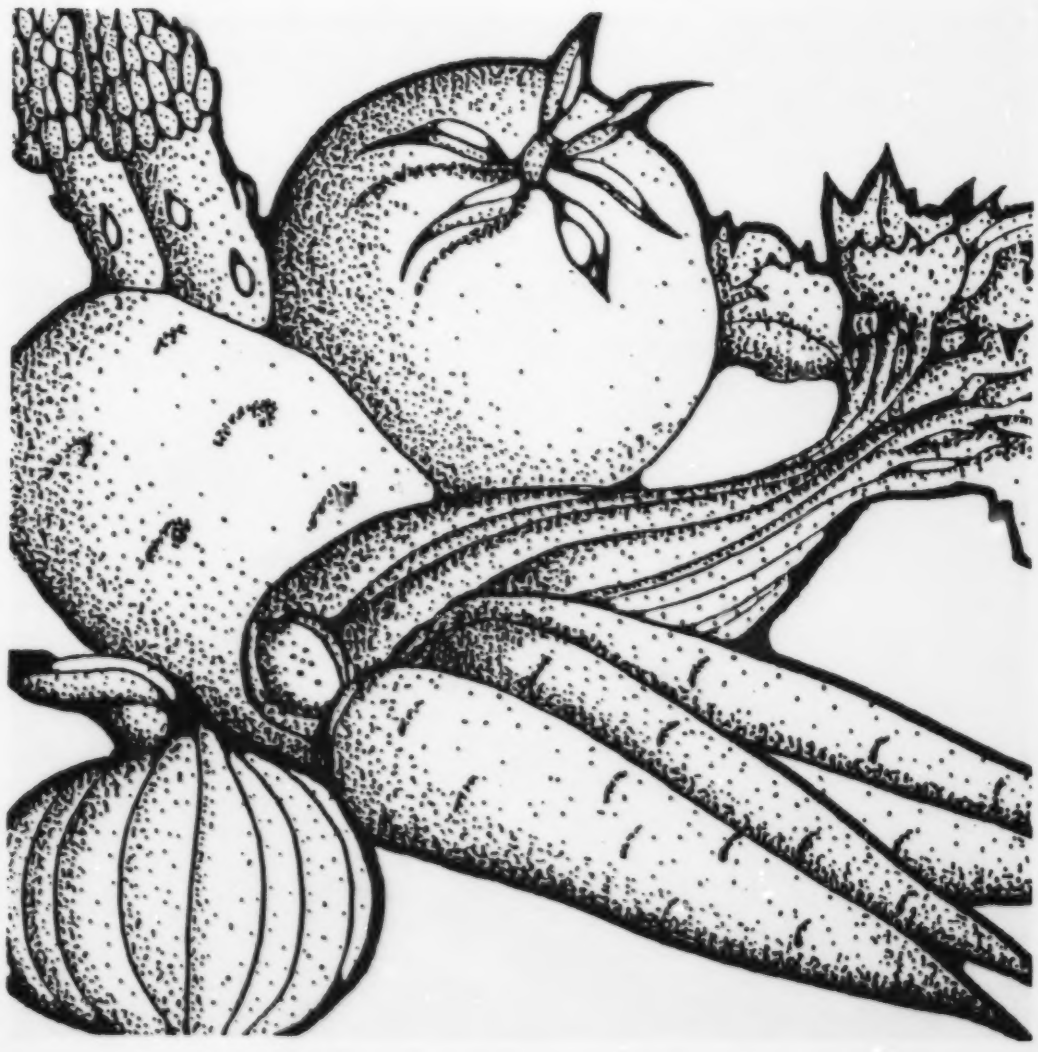
# VEGETABLE CROPS: ESTIMATED PRODUCTION COSTS, ONTARIO, 1991



POLICY ANALYSIS BRANCH

ONTARIO MINISTRY OF AGRICULTURE AND FOOD
LEGISLATIVE BUILDINGS, TORONTO, ONTARIO M7A 2B2

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ECONOMICS INFORMATION

REPORT NO. 92-02

# VEGETABLE CROPS

# ESTIMATED PRODUCTION COSTS

# ONTARIO, 1991

by

Ed Dickson
Errol D. McKibbon
Barbara Burgess
Teresa Veenstra
Judie Wigcherink

Policy Analysis Branch
Ontario Ministry of Agriculture and Food
Legislative Buildings, Queen's Park
Toronto, Ontario,
M7A 2B2

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## INTRODUCTION

Since 1948, the Policy Analysis Branch has carried out comprehensive studies of major field and horticultural crops grown in Ontario. These studies were designed to determine costs and returns of various farm enterprises, as well as the physical amounts of production inputs required.

Traditionally, data was collected by means of farmer interviews. Published reports of these studies in the form of county, regional and provincial averages found a wide distribution among extension and research personnel, educational institutions, farm organizations, lending institutions and policy makers. Cooperating farmers received reports showing their individual information in comparison with group averages.

With this extensive background in the development of cost studies, the Policy Analysis Branch now use micro-computers in the preparation of cost data. Computer simulation now replaces the time consuming process of data collection, tabulation and analysis.

With this new approach, special attention is paid to the physical quantities and prices of inputs for each crop studied. The technology used in the production of various crops is carefully examined so that the computer models will accurately reflect the appropriate production technology for each commodity.

Information on inputs is obtained from a number of sources, including:

1. previous studies done by this Branch;
2. surveys of the farm supply trade;
3. technical input/output coefficients; and
4. the consensus of producers, researchers, extension and agribusiness personnel.

A wide variation in cost structures exist in any agricultural enterprise. The budgets presented in this study do not reflect the variation that would be found between farms. The budgets are representative of costs likely to be found within the industry and are intended to be used as a guideline of possible costs. The costs represented are not necessarily averages as not enough information is available on the actual cost structures that various farms operate under. Individuals with information about their own costs are able to make adjustments using the published budgets as a starting point.

## THE DEVELOPMENT OF THE BUDGETING PROGRAM

A large number of computer programs that generate budgets and crop production cost estimates are now in existence. These computer programs vary in their degree of sophistication and in the amount of detail prepared. A large number of estimates covering a wide range of conditions can be generated quickly and efficiently. The effect of varying levels of technology, management practices and price levels can also be analyzed.

The 1991 cost of production estimates shown in this report are generated by a program originally written in Mississippi, adapted by the University of Minnesota, and modified by the Policy Analysis Branch to accommodate Ontario agricultural conditions.

Users of the budgets should be aware that a new method of calculation was used in 1991 and as a result direct comparisons to prior years may be difficult.

## METHODS AND PROCEDURES

The information used in the preparation of each production cost estimate was prepared through the use of recent Policy Analysis Branch studies, plus consultation with producers, extension, research and agribusiness personnel.

For each crop cost estimate in this report, the data was organized into variable and measurable fixed costs and totalled to arrive at the cost of production on a per acre basis. Variable costs are those which vary directly with the production of each crop grown. They include seed, plants, hired labour, fertilizer, herbicides, insecticides, fungicides, other materials, machinery operating costs, marketing charges and interest on operating capital. Fixed cost inputs are interest and depreciation on machinery, and other overhead cost items. Some fixed costs vary considerably or are difficult to measure thus the user should be fully aware that there may be other costs to consider. Owner labour, land charges and returns to management are discussed below.

## LABOUR HOURS AND COSTS

Labour hours required for each crop were based on previous studies, as well as discussions with those familiar with the production of each crop.

The budget generator separates labour into two categories. First, any labour utilized for operating farm machinery is classified as machine operator labour. These labour hours are valued at $8.25 per hour and include benefits such as worker compensation, unemployment and health insurance and Canada Pension Plan. Secondly, labour utilized for any task other than machinery operation is classified as hired labour and is valued at $7.25 per hour including benefits.

The labour hours of the farm owner are included in the total labour hours recorded for each crop. However, since owner's contribution to the total hours of labour per acre will vary substantially between farm enterprises, a random estimate of the owner's share of total labour hours is not given.

A management allowance is not included as a cost. In previous cost of production publications a management allowance was calculated as 5% of gross income. Profits will vary substantially between crops and farm enterprises. The return to management is realized in the profit received when producing any crop and a user may allocate a management fee if it is appropriate to his/her situation.

## LAND CHARGES

Determining the annual cost for land use is a controversial part of any study on production costs. Land prices and rental rates vary considerably between crops, regions and individuals. For this reason space is provided for the user to insert land rental cost in the variable costs section or land ownership cost in the fixed cost section.

## MATERIALS

The amount of each material input was based on commonly used practices. Input prices are based on averages charged by the trade in the area where the particular crop is grown. For most crops, the quantities of seed, plants, fertilizer nutrients and other inputs are given on a per acre basis. Because of the multitude of products available, pesticides are grouped as herbicides, insecticides, fungicides, nematicides, etcetera. The cost and quantity of non-returnable containers is reported where applicable.

## TRACTORS, MACHINES AND TRUCKS

Machinery complements used in the various crop production cost estimates were assumed to be five years old. Tractor and machine costs included depreciation, interest on investment, repairs and fuel. If machines were used for other farming operations, costs were adjusted based on the proportion of use on the study crop. The declining balance method of depreciation was used, based on estimates of useful life, annual use and salvage value.

Interest on machinery investment was calculated on the assumption that the equity portion was 70 percent and the debt portion was 30 percent of the total depreciated value. For this report, interest on equity was calculated at 4.75 percent, which was the average interest rate paid by chartered banks on savings accounts. The interest on the debt portion was based on the average prime rate of 10.0 percent, plus one for a total of 11.0 percent. Insurance and storage costs for machinery are included in other overhead.

Fuel costs were based on the size of each tractor, truck or self-propelled machine used in the production operation. The following farmgate fuel prices were used: gasoline - 37 cents/litre; diesel - 33 cents/litre. Fuel costs are net of all 1991 Provincial and Federal rebates.

## CUSTOM FARMWORK SERVICES

There are crops produced in Ontario where it is an accepted practice to use custom farmwork services to perform certain operations. Usually, these services are employed when the farmer needs specialized machines, such as harvesters, sprayers, fertilizer applicators and trucks. Custom costs were itemized on a per acre basis, and obtained from discussions with growers and those providing the service.

## INTEREST ON OPERATING CAPITAL

Interest on operating capital required to finance each crop was calculated from the time an expenditure was made until the time income was generated from sales. Operating capital includes the cost of materials, fuel, repairs, hired labour, and other cash items. In this study, the interest rate applied to operating capital was the average estimated prime rate for 1991 of 10.0 percent plus 1 percent for a rate of 11.0 percent.

## OTHER OVERHEAD

This allowance covers such items as the study crop's share of utilities, equipment storage and insurance, accounting and administration costs, use of the farm automobile, and general farm maintenance.

## OTHER COST CONSIDERATIONS

Depending on the crop studied, there are certain additional costs such as crop insurance, marketing board fees, grading charges and selling commissions. Costs for these were obtained from the respective Marketing Boards, and Crop Insurance Commission.

Allowances were made for the use of picking baskets, storage bins, and other pieces of reusable equipment required in the production of certain crops. For carrots and onions, buildings are used in grading, packing, and/or storage, and thus a building cost allowance was made. The cost was based on previous Policy Analysis Branch studies.

## YIELDS AND RETURNS

For each study crop presented in this report, a footnote to the table defines how the average yield and average price were calculated. For many crops the yield will vary considerably within the Province.

In this report, per acre costs are given under both an average and attainable yield scenario. The Appendix of this report lists the yields and prices used to develop the average yield and price for each crop. Attainable yields were obtained for each crop through consultation with producers, extension and agribusiness personnel.

Additional information on average yields and prices is shown in the Appendix of this report.

## GROSS MARGIN ANALYSIS

Gross margin is the amount above the variable costs that a crop contributes to the operator for his management, the investment in machinery and land, and to other overhead costs. A different expected yield and/or price could considerably change the gross margin calculated. A land rental fee is not included in the variable costs and thus the gross margin recorded is the margin before any land charges are deducted.

## YOUR INPUT

The accuracy and representativeness of the cost of production budgets can only be kept up-to-date through continuous contact with individuals involved in production, marketing, processing or research for each crop. If you have any questions or can contribute to any of the budgets in this report please feel free to call the author(s) at (519) 674-0714.

**Table 1.--Asparagus "Preplant Year" Costs: Estimated Cost of Production, Ontario 1991**

| | Cost per acre | |
|---|---|---|
| | Your Farm | Budget |
| | | -dollars- |
| **VARIABLE COSTS** | | |
| Labour: | | |
| Machine operator, 2.7 hrs | _____ | 22 |
| Fertilizer, N - 35 lb/ac; $P_2O_5$ - 71 lb/ac; | | |
| $K_2O$ - 106 lb/ac | _____ | 44 |
| Herbicides | _____ | 18 |
| Green manure seed | _____ | 4 |
| Tractor and machine costs: | | |
| Repairs and maintenance | _____ | 7 |
| Fuel | _____ | 6 |
| Interest on operating capital | _____ | 33 |
| Land rental | _____ | -- |
| **TOTAL VARIABLE COSTS** | _____ | **134** |
| **FIXED COSTS** | | |
| Tractor and machine costs: | | |
| Depreciation | _____ | 9 |
| Interest on investment | _____ | 6 |
| Other overhead | _____ | 20 |
| Land ownership | _____ | -- |
| **MEASURABLE FIXED COSTS** | _____ | **35** |
| **TOTAL MEASURABLE "PREPLANT YEAR" COSTS** | _____ | **169** |

**Table 2.--Asparagus "Preplant Year" Costs: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.75 | 6.21 | 4.48 | 5.03 | 15.72 |
| Discing | 0.33 | 2.72 | 2.17 | 2.50 | 7.39 |
| Seeding green manure | 0.66 | 5.45 | 2.50 | 2.61 | 10.56 |
| Spreading fertilizer | 0.66 | 5.45 | 2.50 | 2.61 | 10.56 |
| Spraying herbicide | 0.30 | 2.50 | 1.17 | 1.80 | 5.47 |

* Fixed costs include depreciation and interest on investment.

Table 3.--Asparagus "Planting Year" Costs: Estimated Cost of Production, Ontario, 1991

| | Cost per acre | |
|---|---|---|
| | Your Farm | Budget |
| | | -dollars- |
| **VARIABLE COSTS** | | |
| Labour: | | |
| Hired, 28.0 hrs | _____ | 203 |
| Machine operator, 13.4 hrs | _____ | 111 |
| Fertilizer: | | |
| Superphosphate - 331 lb/ac | _____ | 47 |
| Ammonium nitrate - 220 lb/ac | _____ | 26 |
| Lime, 2.2 tons/ac | _____ | 39 |
| Insecticides | _____ | 27 |
| Herbicides | _____ | 84 |
| Roots, 11,000/ac | _____ | 770 |
| Custom and rentals | _____ | 62 |
| Tractor and machine costs | | |
| Repairs and maintenance | _____ | 29 |
| Fuel | _____ | 27 |
| Interest of operating capital | _____ | 242 |
| Land rental | _____ | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,667** |
| **FIXED COSTS** | | |
| Tractor and machine costs: | | |
| Depreciation | _____ | 40 |
| Interest on investment | _____ | 26 |
| Other overhead | _____ | 40 |
| Land ownership | _____ | -- |
| **MEASURABLE FIXED COSTS** | _____ | **106** |
| **TOTAL MEASURABLE "PLANTING YEAR" COSTS** | _____ | **1,773** |

Table 4.--Asparagus "Planting Year" Costs: Operation Costs, Ontario, 1991

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.75 | 6.21 | 4.48 | 5.03 | 15.72 |
| Discing (2x) | 0.66 | 5.45 | 4.36 | 5.00 | 14.81 |
| Trenching | 1.20 | 9.90 | 21.09 | 4.00 | 35.00 |
| Fertilizing | 0.72 | 5.94 | 3.27 | 5.92 | 15.13 |
| Planting | 18.96 | 141.42 | 29.11 | 13.31 | 183.84 |
| Replanting | 1.00 | 7.25 | - | - | 7.25 |
| Covering trench | 1.32 | 10.89 | 4.58 | 4.05 | 19.52 |
| Cultivating (2x) | 1.32 | 10.89 | 4.87 | 4.51 | 20.27 |
| Spraying herbicide (2x) | 1.44 | 11.88 | 6.54 | 11.84 | 30.26 |
| Hand hoeing | 12.00 | 87.00 | - | - | 87.00 |
| Fertilizing | 0.72 | 5.94 | 3.27 | 5.92 | 15.13 |
| Spraying insecticides (2x) | 1.32 | 10.89 | 4.85 | 6.52 | 22.26 |

* Fixed costs include depreciation and interest on investment.

Table 5.--Asparagus "Growth Year" Costs: Estimated Cost of Production, Ontario, 1991

| | Cost per acre | |
|---|---|---|
| | Your Farm | Budget |
| | | -dollars- |
| **VARIABLE COSTS** | | |
| Labour: | | |
| Hired, 5.0 hrs | _____ | 36 |
| Machine operator, 4.0 hrs | _____ | 33 |
| Fertilizer; N - 117 lb/ac; $P_2O_5$ - 50 lb/ac; $K_2O$ - 50 lb/ac | _____ | 61 |
| Insecticides | | 40 |
| Fungicides | _____ | 33 |
| Herbicides | _____ | 110 |
| Tractor and machine costs: | | |
| Repairs and maintenance | _____ | 10 |
| Fuel | _____ | 8 |
| Interest on operating capital | _____ | 20 |
| Land rental | _____ | -- |
| **TOTAL VARIABLE COSTS** | _____ | **351** |
| **FIXED COSTS** | | |
| Tractor and machine costs: | | |
| Depreciation | _____ | 15 |
| Interest on investment | _____ | 10 |
| Other overhead | _____ | 40 |
| Land ownership | _____ | -- |
| **MEASURABLE FIXED COSTS** | _____ | **65** |
| **TOTAL MEASURABLE "GROWTH YEAR" COSTS** | _____ | **416** |

Table 6.--Asparagus "Growth Year" Costs: Operation Costs, Ontario, 1991

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Stalk shredding | 0.33 | 2.72 | 2.68 | 2.20 | 7.60 |
| Fertilizing (2x) | 1.44 | 11.88 | 6.54 | 11.84 | 30.26 |
| Cultivating | 0.66 | 5.45 | 2.43 | 2.25 | 10.13 |
| Spraying herbicides | 0.66 | 5.45 | 2.42 | 3.25 | 11.12 |
| Spraying pesticides (3x) | 0.91 | 7.51 | 3.52 | 5.40 | 16.43 |
| Hand hoeing | 5.00 | 36.25 | - | - | 36.25 |

* Fixed costs include depreciation and interest on investment.

**Table 7.--Asparagus Preharvest and Harvest Costs for Processing Purposes: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield 1,800 lb | Yield 2,400 lb |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 77.0 hrs/83.0 hrs | _____ | 558 | 602 |
| Machine operator, 57.7 hrs/62.1 hrs | _____ | 476 | 512 |
| Fertilizer, N - 117 lb/ac; $P_2O_5$ - 50 lb/ac; $K_2O$ - 50 lb/ac | _____ | 61 | 61 |
| Cover crop - Rye, 3 bu/ac | _____ | 5 | 5 |
| Insecticides | _____ | 40 | 40 |
| Fungicides | _____ | 33 | 33 |
| Herbicides | _____ | 16 | 16 |
| Marketing Board licence | _____ | 40 | 40 |
| Inspection, receiving & administration fees | _____ | 90 | 120 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 68 | 74 |
| Fuel | _____ | 37 | 38 |
| Interest on operating capital | _____ | 62 | 67 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,486** | **1,608** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 71 | 76 |
| Interest on investment | _____ | 47 | 51 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **158** | **167** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($0.93 lb)[a] | _____ | 1,674 | 2,232 |
| Variable Costs: | | | |
| Amortized Establishment Costs[b] | _____ | 298 | 298 |
| Preharvest and Harvest | _____ | 1,486 | 1,608 |
| **TOTAL** (no land costs reflected) | _____ | 1,784 | 1,906 |
| Gross Margin | _____ | -110 | 326 |

[a] Price is an average of the previous three years for asparagus sold for processing.

[b] Amortized establishment costs include preplant year costs, planting year costs, and growth year costs (total $12,358) amortized over 15 years at a rate of 9.3 percent. The costs do not reflect a charge for land.

**Table 8.--Asparagus Preharvest and Harvest Costs for Processing Purposes: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Stalk & rye mowing | 0.33 | 2.72 | 2.68 | 2.20 | 7.60 |
| Fertilizing (2x) | 1.44 | 11.88 | 6.54 | 11.84 | 30.26 |
| Cultivating | 0.66 | 5.45 | 2.43 | 2.25 | 10.13 |
| Spraying herbicides | 0.66 | 5.43 | 2.42 | 3.25 | 11.12 |
| Spraying pesticides (3x) | 0.91 | 7.51 | 3.52 | 5.40 | 16.43 |
| Hand hoeing | 5.00 | 36.25 | - | - | 36.25 |
| Sowing rye | 0.66 | 5.45 | 2.50 | 2.62 | 10.57 |
| **LOWER YIELD (1,800 lb/ac)** | | | | | |
| Harvesting | 88.52 | 678.29 | 53.22 | 52.49 | 784.00 |
| Grading and trimming | 31.00 | 235.75 | 9.11 | 15.70 | 260.56 |
| Delivery | 5.50 | 45.38 | 22.12 | 22.52 | 90.02 |
| **HIGHER YIELD (2,400 lb/ac)** | | | | | |
| Harvesting | 88.52 | 678.29 | 53.22 | 52.49 | 784.00 |
| Grading and trimming | 40.30 | 306.47 | 11.85 | 20.40 | 338.72 |
| Delivery | 6.60 | 54.45 | 26.54 | 27.02 | 108.01 |

* Fixed costs include depreciation and interest on investment.

**Table 9.--Fresh Market Broccoli: Estimated Cost of Production, Ontario, 1991**

| | Your Farm | Cost per acre Yield[a] 260 boxes | Yield[b] 340 boxes |
|---|---|---|---|
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 41.0 hrs/51.5 hrs | _____ | 297 | 373 |
| Machine operator, 10.2 hrs/11.6 hrs | _____ | 84 | 96 |
| Plants, 11,000/ac | _____ | 330 | 330 |
| Fertilizer, N - 202 lb/ac; $P_2O_5$ - 159 lb/ac; $K_2O$ - 159 lb/ac | _____ | 137 | 137 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 5 | 5 |
| Insecticides | _____ | 86 | 86 |
| Fungicide | _____ | 14 | 14 |
| Tying bands | _____ | 19 | 25 |
| Boxes, non-returnable | _____ | 312 | 408 |
| Use of picking bins | _____ | 5 | 5 |
| Custom packing and icing | _____ | 455 | 595 |
| Irrigation (2x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 111 | 134 |
| Fuel | _____ | 27 | 33 |
| Interest on operating capital | _____ | 30 | 30 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **2,077** | **2,436** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 110 | 135 |
| Interest on investment | _____ | 73 | 90 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **243** | **285** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($9.15 per box)[c] | _____ | 2,379 | 3,111 |
| Total Variable Costs | _____ | 2,077 | 2,436 |
| Gross Margin (no land costs reflected) | _____ | 302 | 675 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990 (box of 18's)

**Table 10.--Fresh Market Broccoli: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.60 | 2.59 |
| Incorporate herbicide | 0.15 | 1.20 | 2.07 | 2.70 | 5.97 |
| Cultivate and level | 0.29 | 2.40 | 4.46 | 6.39 | 13.25 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 0.86 | 3.74 |
| Planting | 7.98 | 59.83 | 14.46 | 12.80 | 87.09 |
| Spray insecticides (4x) | 1.04 | 8.76 | 8.20 | 10.16 | 27.12 |
| Spray fungicide | 0.26 | 2.18 | 2.06 | 2.54 | 6.78 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| Row cultivate and sidedress fertilizer | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| **LOWER YIELD (260 boxes/ac)** | | | | | |
| Harvesting | 35.42 | 257.23 | 1.50 | 1.42 | 260.15 |
| Loading and hauling to market | 4.95 | 40.84 | 93.94 | 138.37 | 273.15 |
| **HIGHER YIELD (340 boxes/ac)** | | | | | |
| Harvesting | 46.05 | 334.40 | 1.95 | 1.85 | 338.20 |
| Loading and hauling to market | 6.44 | 53.09 | 122.12 | 179.88 | 355.09 |

* Fixed costs include depreciation and interest on investment

**Table 11.--Fresh Market Cabbage: Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 740 boxes | Yield[b] 960 boxes |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 71.0 hrs/89.0 hrs | _____ | 515 | 645 |
| Machine operator, 10.5 hrs/12.1 hrs | _____ | 87 | 100 |
| Plants, 13,500/ac | _____ | 365 | 365 |
| Fertilizer, N - 203 lb/ac; $P_2O_5$ - 159 lb/ac; $K_2O$ - 159 lb/ac | _____ | 137 | 137 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 5 | 5 |
| Insecticides | _____ | 86 | 86 |
| Fungicides | _____ | 14 | 14 |
| Boxes, non-returnable | _____ | 925 | 1,200 |
| Use of picking bins | _____ | 5 | 5 |
| Irrigation (2x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 111 | 134 |
| Fuel | _____ | 27 | 33 |
| Interest on operating capital | _____ | 34 | 34 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **2,476** | **2,923** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 111 | 136 |
| Interest on investment | _____ | 74 | 91 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **245** | **287** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($5.35 per box)[c] | _____ | 3,959 | 5,136 |
| Total Variable Costs | _____ | 2,476 | 2,923 |
| Gross Margin (no land costs reflected) | _____ | 1,483 | 2,213 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990 (box of 16's)

**Table 12.--Fresh Market Cabbage: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.60 | 2.59 |
| Incorporate herbicide | 0.15 | 1.20 | 2.07 | 2.70 | 5.97 |
| Cultivate and level | 0.29 | 2.40 | 4.46 | 6.39 | 13.25 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 0.86 | 3.74 |
| Planting | 7.98 | 59.83 | 14.46 | 12.80 | 87.09 |
| Row cultivating | 0.29 | 2.40 | 1.30 | 1.35 | 5.05 |
| Hand hoeing | 5.00 | 36.25 | - | - | 36.25 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| Spray insecticides (4x) | 1.04 | 8.72 | 8.20 | 10.20 | 27.12 |
| Spray fungicides | 0.26 | 2.18 | 2.06 | 2.54 | 6.78 |
| Row cultivate & sidedress fertilizer | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| **LOWER YIELD (740 boxes/ac)** | | | | | |
| Harvesting | 62.62 | 456.63 | 17.25 | 20.97 | 494.85 |
| Loading and hauling to market | 2.75 | 22.69 | 78.20 | 118.82 | 219.71 |
| **HIGHER YIELD (960 boxes/ac)** | | | | | |
| Harvesting | 81.40 | 593.62 | 22.43 | 27.26 | 643.31 |
| Loading and hauling to market | 3.58 | 29.50 | 101.66 | 154.46 | 285.62 |

* Fixed costs include depreciation and interest on investment

**Table 13.--Fresh Market Carrots on Muck Soils: Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 24.2 tons | Yield[b] 31.4 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 10.7 hrs/12.3 hrs | _____ | 78 | 89 |
| Machine operator, 10.9 hrs/13.2 hrs | _____ | 90 | 109 |
| Seed, pelleted, 650,000/ac | _____ | 293 | 293 |
| Fertilizer, N - 50 lb/ac; $P_2O_5$ - 60 lb/ac; $K_2O$ - 175 lb/ac | _____ | 78 | 78 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 63 | 63 |
| Insecticides | _____ | 45 | 45 |
| Fungicides | _____ | 55 | 55 |
| Pallet box repairs | _____ | 37 | 48 |
| Storage, repairs and maintenance | _____ | 31 | 31 |
| Storage, electricity | _____ | 27 | 27 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 90 | 106 |
| Fuel | _____ | 41 | 48 |
| Interest on operating capital | _____ | 19 | 19 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **952** | **1,016** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 173 | 204 |
| Interest on investment | _____ | 116 | 136 |
| Storage building | _____ | 171 | 171 |
| Other overhead | _____ | 100 | 100 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **560** | **611** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($110.80 per ton)[c] | _____ | 2,681 | 3,479 |
| Total Variable Costs | _____ | 952 | 1,016 |
| Gross Margin (no land costs reflected) | _____ | 1,729 | 2,463 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 14.--Fresh Market Carrots on Muck Soils: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Discing (2x) | 0.66 | 2.72 | 5.48 | 7.22 | 15.42 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.76 | 2.75 |
| Spraying (8x) | 2.11 | 17.44 | 16.43 | 25.12 | 58.99 |
| Planting | 1.85 | 15.25 | 20.30 | 56.71 | 92.26 |
| Row cultivating | 0.33 | 2.72 | 7.17 | 12.50 | 22.39 |
| Hand hoeing | 4.00 | 29.00 | - | - | 29.00 |
| **LOWER YIELD (24.2 tons/ac)** | | | | | |
| Harvesting | 7.06 | 54.26 | 28.77 | 97.34 | 180.37 |
| Loading and hauling to market | 5.45 | 44.26 | 46.31 | 71.32 | 161.89 |
| **HIGHER YIELD (31.4 tons/ac)** | | | | | |
| Harvesting | 9.18 | 70.54 | 37.40 | 126.54 | 234.48 |
| Loading and hauling to market | 7.09 | 57.54 | 60.20 | 92.72 | 210.46 |

* Fixed costs include depreciation and interest on investment

**Table 15.--Fresh Market Cauliflower: Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 385 cartons | Yield[b] 500 cartons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 121.0 hrs/154.0 hrs | _____ | 877 | 1,117 |
| Machine operator, 8.6 hrs/9.8 hrs | _____ | 71 | 81 |
| Plants, 8,500/ac | _____ | 383 | 383 |
| Fertilizer, N - 202 lb/ac; $P_2O_5$ - 159 lb/ac; $K_2O$ - 159 lb/ac | _____ | 137 | 137 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 5 | 5 |
| Insecticides | _____ | 86 | 86 |
| Fungicides | _____ | 14 | 14 |
| Tying bands | _____ | 20 | 24 |
| Cartons, non-returnable | _____ | 578 | 750 |
| Irrigation (3x) | _____ | 240 | 240 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 99 | 119 |
| Fuel | _____ | 25 | 30 |
| Interest on operating capital | _____ | 35 | 35 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | 2,575 | 3,026 |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 100 | 122 |
| Interest on investment | _____ | 66 | 81 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | 226 | 263 |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($8.60 per carton)[c] | _____ | 3,311 | 4,300 |
| Total Variable Costs | _____ | 2,575 | 3,026 |
| Gross Margin (no land costs reflected) | _____ | 736 | 1,274 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990 (carton of 12's)

**Table 16.--Fresh Market Cauliflower: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Incorporate herbicide | 0.15 | 1.20 | 2.07 | 2.70 | 5.97 |
| Cultivate and level | 0.29 | 2.40 | 4.46 | 6.39 | 13.25 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 0.86 | 3.74 |
| Planting | 7.98 | 59.83 | 14.46 | 12.80 | 87.09 |
| Hand hoeing | 5.00 | 36.25 | - | - | 36.25 |
| Spray insecticides (4x) | 1.04 | 8.72 | 8.24 | 10.16 | 27.12 |
| Irrigation (3x) | - | - | - | - | 240.00 |
| Spray fungicides | 0.26 | 2.18 | 2.06 | 2.54 | 6.78 |
| Row cultivate & sidedress fertilizer | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| **LOWER YIELD (385 cartons/ac)** | | | | | |
| Harvesting | 106.06 | 769.96 | 3.76 | 3.55 | 777.27 |
| Loading and hauling to market | 7.75 | 58.94 | 78.20 | 118.82 | 255.96 |
| **HIGHER YIELD (500 cartons/ac)** | | | | | |
| Harvesting | 137.88 | 1,000.95 | 4.89 | 4.62 | 1,010.46 |
| Loading and hauling to market | 10.08 | 76.62 | 101.66 | 154.47 | 332.75 |

* Fixed costs include depreciation and interest on investment

**Table 17.--Fresh Market Celery (Hand Harvest) on Muck Soils: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 31.8 tons | Yield[b] 41.3 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 104.2 hrs/129.1 hrs | _____ | 755 | 936 |
| Machine operator, 12.5 hrs/14.1 hrs | _____ | 103 | 116 |
| Plants, 38,000/ac | _____ | 920 | 920 |
| Fertilizer, N - 220 lb/ac; $P_2O_5$ - 100 lb/ac; $K_2O$ - 345 lo/ac | _____ | 205 | 205 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 25 | 25 |
| Insecticides | _____ | 62 | 62 |
| Fungicides | _____ | 98 | 98 |
| Cartons, non-returnable | _____ | 1,359 | 1,767 |
| Irrigation (2x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 68 | 76 |
| Fuel | _____ | 45 | 51 |
| Interest on operating capital | _____ | 294 | 294 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **4,099** | **4,715** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 73 | 86 |
| Interest on investment | _____ | 49 | 58 |
| Other overhead | _____ | 100 | 100 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **222** | **244** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($186.00 per ton)[c] | _____ | 5,915 | 7,682 |
| Total Variable Costs | _____ | 4,099 | 4,715 |
| Gross Margin (no land costs reflected) | _____ | 1,816 | 2,967 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 18.--Fresh Market Celery, (Hand Harvest) on Muck Soils: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Discing (2x) | 0.66 | 5.44 | 5.48 | 7.22 | 18.14 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.76 | 2.75 |
| Spraying (14x) | 3.69 | 30.52 | 28.75 | 43.96 | 103.23 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 1.06 | 3.94 |
| Planting | 7.98 | 59.83 | 14.46 | 15.65 | 89.94 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| Row cultivate, sidedress fertilizer (2x) | 0.62 | 5.16 | 3.74 | 4.40 | 13.30 |
| **LOWER YIELD (31.8 tons/ac)** | | | | | |
| Harvesting | 98.42 | 713.98 | 0.77 | 2.14 | 716.89 |
| Loading and hauling to market | 4.75 | 39.19 | 46.31 | 71.32 | 156.82 |
| **HIGHER YIELD (41.3 tons/ac)** | | | | | |
| Harvesting | 127.95 | 928.17 | 1.00 | 2.78 | 931.95 |
| Loading and hauling to market | 6.18 | 50.95 | 60.20 | 92.72 | 203.87 |

* Fixed costs include depreciation and interest on investment

**Table 19.--Head Lettuce, on Muck Soils: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 1,100 dozen | Yield[b] 1,430 dozen |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 152.3 hrs/184.3 hrs | _____ | 1,104 | 1,336 |
| Machine operator, 10.1 hrs/11.6 hrs | _____ | 83 | 96 |
| Seed, pelleted, 100,000/ac | _____ | 49 | 49 |
| Fertilizer, N - 120 lb/ac; $P_2O_5$ - 60 lb/ac; | | | |
| $K_2O$ - 150 lb/ac, ep salt | _____ | 91 | 91 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Insecticides | _____ | 46 | 46 |
| Fungicides | _____ | 39 | 39 |
| Crates, non-returnable | _____ | 1,242 | 1,615 |
| Irrigation (2x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 72 | 83 |
| Fuel | _____ | 35 | 41 |
| Interest on operating capital | _____ | 162 | 162 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **3,088** | **3,723** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 89 | 100 |
| Interest on investment | _____ | 60 | 67 |
| Other overhead | _____ | 100 | 100 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **249** | **267** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($3.05 per dozen)[c] | _____ | 3,355 | 4,362 |
| Total Variable Costs | _____ | 3,088 | 3,723 |
| Gross Margin (no land costs reflected) | _____ | 267 | 639 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 20.--Head Lettuce on Muck Soils: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Discing (2x) | 0.66 | 5.44 | 5.48 | 5.78 | 16.70 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Planting | 1.85 | 15.25 | 17.13 | 44.03 | 76.41 |
| Row cultivating (2x) | 0.66 | 5.44 | 14.34 | 19.98 | 39.76 |
| Hand hoeing | 32.50 | 235.63 | - | - | 235.63 |
| Spraying (6x) | 1.56 | 13.08 | 12.30 | 15.24 | 40.62 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| **LOWER YIELD (1,100 dozen/ac)** | | | | | |
| Harvesting | 91.92 | 666.86 | 2.28 | 1.70 | 670.84 |
| Loading and hauling to market | 19.75 | 147.94 | 54.90 | 60.90 | 263.74 |
| **HIGHER YIELD (1,430 dozen/ac)** | | | | | |
| Harvesting | 119.50 | 866.92 | 2.96 | 2.21 | 872.09 |
| Loading and hauling to market | 25.68 | 192.32 | 71.37 | 79.17 | 342.86 |

* Fixed costs include depreciation and interest on investment

**Table 21.--Peppers for Fresh Market: Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 370 cartons | Yield[b] 480 cartons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 65.0 hrs/81.2 hrs | _____ | 471 | 589 |
| Machine operator, 9.6 hrs/10.7 hrs | _____ | 80 | 89 |
| Plants, 9,000/ac | _____ | 225 | 225 |
| Fertilizer, N - 54 lb/ac; $P_2O_5$ - 107 lb/ac; $K_2O$ - 100 lb/ac | _____ | 68 | 68 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 5 | 5 |
| Insecticides | _____ | 54 | 54 |
| Fungicides | _____ | 40 | 40 |
| Containers, non-returnable | _____ | 391 | 504 |
| Use of picking hampers | _____ | 12 | 12 |
| Irrigation (2 x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 102 | 121 |
| Fuel | _____ | 28 | 33 |
| Interest on operating capital | _____ | 13 | 13 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,654** | **1,918** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 103 | 125 |
| Interest on investment | _____ | 69 | 83 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **232** | **268** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($7.10 per carton)[c] | _____ | 2,627 | 3,408 |
| Total Variable Costs | _____ | 1,654 | 1,918 |
| Gross Margin (no land costs reflected) | _____ | 973 | 1,490 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 22.--Peppers for Fresh Market: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.60 | 2.59 |
| Incorporate herbicide | 0.15 | 1.20 | 2.07 | 2.70 | 5.97 |
| Cultivate and level | 0.29 | 2.40 | 4.46 | 6.39 | 13.25 |
| Haul plants and water | 0.21 | 1.74 | 0.75 | 0.71 | 3.20 |
| Planting | 7.98 | 59.83 | 14.46 | 12.80 | 87.09 |
| Row cultivate (2x) | 0.96 | 7.84 | 5.60 | 4.46 | 17.90 |
| Hand hoeing | 5.00 | 36.25 | - | - | 36.25 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| Spray insecticides (3x) | 0.79 | 6.54 | 6.16 | 7.63 | 20.33 |
| Spray fungicides (3x) | 0.79 | 6.53 | 6.17 | 7.63 | 20.33 |
| Row cultivate, sidedress fertilizer | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| **LOWER YIELD (370 cartons/ac)** | | | | | |
| Harvesting | 54.84 | 398.47 | 3.01 | 2.84 | 360.83 |
| Loading and hauling to market | 2.75 | 22.69 | 78.21 | 118.82 | 263.22 |
| **HIGHER YIELD (480 cartons/ac)** | | | | | |
| Harvesting | 71.29 | 518.01 | 3.91 | 3.69 | 469.08 |
| Loading and hauling to market | 3.58 | 29.49 | 101.67 | 154.47 | 342.19 |

* Fixed costs include depreciation and interest on investment

**Table 23.--Fresh Market Potatoes: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 310 bushels | Yield[b] 400 bushels |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired[c], 6.5 hrs/7.7 hrs | _____ | 47 | 56 |
| Machine operator, 19.1 hrs/22.2 hrs | _____ | 157 | 183 |
| Seed, potato | _____ | 364 | 364 |
| Seed treatment | _____ | 13 | 13 |
| Seed, rye | _____ | 5 | 5 |
| Fertilizer, N - 150 lb/ac; $P_2O_5$ - 150 lb/ac; $K_2O$ - 150 lb/ac | _____ | 117 | 117 |
| Herbicides | _____ | 66 | 66 |
| Insecticides | _____ | 48 | 48 |
| Fungicides | _____ | 47 | 47 |
| Marketing fees | _____ | 22 | 28 |
| Use of picking bins | _____ | 2 | 2 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 171 | 203 |
| Fuel | _____ | 48 | 57 |
| Interest on operating capital | _____ | 30 | 30 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,137** | **1,219** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 241 | 293 |
| Interest on investment | _____ | 161 | 195 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **462** | **548** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($4.60 per bushel)[d] | _____ | 1,426 | 1,840 |
| Total Variable Costs | _____ | 1,137 | 1,219 |
| Gross Margin (no land costs reflected) | _____ | 289 | 621 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] Labour costs does not include grading and packing
[d] 5 year average price for 1986-1990 - Potato Growers' Marketing Board; net of container costs, grading and packing labour

**Table 24.--Fresh Market Potatoes: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Fall discing | 0.15 | 1.20 | 1.82 | 2.20 | 5.22 |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Plant rye | 0.20 | 1.65 | 2.23 | 2.71 | 6.59 |
| Spray herbicide | 0.26 | 2.18 | 2.06 | 2.54 | 6.78 |
| Cultivate and level (2x) | 0.30 | 2.40 | 4.44 | 6.40 | 13.24 |
| Cut seed | 1.66 | 12.69 | 6.34 | 24.87 | 43.90 |
| Haul plants and water | 2.41 | 19.89 | 16.49 | 20.26 | 56.64 |
| Planting | 3.48 | 27.22 | 24.74 | 34.12 | 86.08 |
| Row cultivating | 0.29 | 2.40 | 1.30 | 1.35 | 5.05 |
| Hilling (2x) | 0.58 | 4.80 | 2.80 | 3.68 | 11.28 |
| Spray insecticides, fungicides (5x) | 1.30 | 10.90 | 10.30 | 12.70 | 33.90 |
| Spray topkill | 0.26 | 2.18 | 2.05 | 2.55 | 6.78 |
| **LOWER YIELD (310 bushels/ac)** | | | | | |
| Harvesting | 9.28 | 72.56 | 43.13 | 145.12 | 231.81 |
| Loading and hauling to market | 4.95 | 40.84 | 93.94 | 138.37 | 273.15 |
| **HIGHER YIELD (400 bushels/ac)** | | | | | |
| Harvesting | 12.06 | 94.33 | 56.07 | 188.66 | 301.35 |
| Loading and hauling to market | 6.43 | 53.09 | 122.12 | 179.88 | 355.09 |

* Fixed costs include depreciation and interest on investment

**Table 25.--Sweet Corn for Fresh Market (Hand Harvest): Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 800 dozen | Yield[b] 1,040 dozen |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 45.0 hrs/58.5 hrs | _____ | 326 | 424 |
| Machine operator, 9.4 hrs/10.9 hrs | _____ | 77 | 90 |
| Seed, 4.5 kg/ac | _____ | 50 | 50 |
| Fertilizer, N - 68 lb/ac; $P_2O_5$ - 70 lb/ac; $K_2O$ - 135 lb/ac | _____ | 64 | 64 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 33 | 33 |
| Insecticides | _____ | 59 | 59 |
| Mesh bags | _____ | 61 | 79 |
| Irrigation (2x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 106 | 129 |
| Fuel | _____ | 25 | 31 |
| Interest on operating capital | _____ | 3 | 3 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | 969 | 1,127 |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 106 | 131 |
| Interest on investment | _____ | 71 | 88 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | 237 | 279 |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($1.60 per dozen)[c] | _____ | 1,280 | 1,664 |
| Total Variable Costs | _____ | 969 | 1,127 |
| Gross Margin | _____ | 311 | 537 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 26.--Sweet Corn for Fresh Market (Hand Harvest): Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed[a] Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.60 | 2.59 |
| Incorporate herbicide | 0.15 | 1.20 | 2.07 | 2.70 | 5.97 |
| Cultivate and level | 0.15 | 1.20 | 2.22 | 3.20 | 6.62 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 0.86 | 3.74 |
| Planting | 0.33 | 2.72 | 3.30 | 4.43 | 10.45 |
| Row cultivate (2x) | 1.32 | 10.89 | 7.30 | 5.40 | 23.59 |
| Spray insecticides (5x) | 1.30 | 10.90 | 10.30 | 12.70 | 33.90 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| **LOWER YIELD (800 dozen/ac)** | | | | | |
| Harvesting | 47.41 | 346.14 | 16.87 | 20.41 | 383.42 |
| Loading and hauling to market | 2.75 | 22.69 | 78.20 | 118.82 | 219.71 |
| **HIGHER YIELD (1,040 dozen/ac)** | | | | | |
| Harvesting | 61.63 | 449.98 | 21.93 | 26.53 | 498.44 |
| Loading and hauling to market | 3.58 | 29.50 | 101.66 | 154.46 | 285.62 |

[a] Fixed costs include depreciation and interest on investment

**Table 27.--Field Tomatoes for Fresh Market: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 995 masters | Yield[b] 1,295 masters |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 294.0 hrs/378.0 hrs | _____ | 2,132 | 2,741 |
| Machine operator, 11.5 hrs/13.1 hrs | _____ | 95 | 107 |
| Plants, 8,000/ac | _____ | 280 | 280 |
| Plant starter 10-34-0 | _____ | 5 | 5 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Fertilizer, N - 92 lb/ac; $P_2O_5$ - 83 lb/ac; $K_2O$ - 241 lb/ac | _____ | 95 | 95 |
| Herbicides | _____ | 22 | 22 |
| Insecticides | _____ | 18 | 18 |
| Fungicides | _____ | 52 | 52 |
| Masters, non-returnable | _____ | 995 | 1,295 |
| Baskets, 4 qt, non-returnable | _____ | 896 | 1,166 |
| Use of picking hampers | _____ | 18 | 18 |
| Irrigation (2x) | _____ | 160 | 160 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 114 | 136 |
| Fuel | _____ | 31 | 38 |
| Interest on operating capital | _____ | 17 | 17 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **4,935** | **6,155** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 114 | 139 |
| Interest on investment | _____ | 76 | 93 |
| Other overhead | _____ | 60 | 60 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **250** | **292** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross income ($5.75 per master)[c] | _____ | 5,721 | 7,446 |
| Total Variable Costs | _____ | 4,935 | 6,155 |
| Gross Margin (no land costs reflected) | _____ | 786 | 1,291 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 28.--Field Tomatoes for Fresh Market: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.60 | 2.59 |
| Incorporate herbicide | 0.15 | 1.20 | 2.07 | 2.70 | 5.97 |
| Cultivate and level | 0.29 | 2.40 | 4.46 | 6.39 | 13.25 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 0.86 | 3.74 |
| Planting | 10.98 | 81.59 | 13.36 | 11.26 | 106.21 |
| Row cultivate (2x) | 0.95 | 7.84 | 5.61 | 4.45 | 17.90 |
| Hand hoeing | 5.0 | 36.25 | - | - | 36.25 |
| Irrigation (2x) | - | - | - | - | 160.00 |
| Spray insecticides (2x) | 0.52 | 4.38 | 4.10 | 5.08 | 13.56 |
| Spray fungicides (5x) | 1.32 | 10.89 | 10.29 | 12.70 | 33.88 |
| Row cultivate, sidedress fertilizer | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| **LOWER YIELD (995 masters/ac)** | | | | | |
| Harvesting | 282.41 | 2,049.89 | 16.48 | 20.26 | 2,086.63 |
| Loading and hauling to market | 2.75 | 22.69 | 78.20 | 118.82 | 219.71 |
| **HIGHER YIELD (1,295 masters/ac)** | | | | | |
| Harvesting | 367.13 | 2,664.86 | 21.42 | 26.34 | 2,712.62 |
| Loading and hauling to market | 3.58 | 29.50 | 101.66 | 154.47 | 285.62 |

* Fixed costs include depreciation and interest on investment

**Table 29.--Yellow Seed Onions on Muck Soils: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 19.0 tons | Yield[b] 24.7 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 19.1 hrs/21.7 hrs | _____ | 138 | 157 |
| Machine operator, 14.9 hrs/17.8 hrs | _____ | 123 | 147 |
| Seed, pelleted, treated, 408,000/ac | _____ | 347 | 347 |
| Fertilizer, N - 90 lb/ac; $P_2O_5$ - 65 lb/ac; $K_2O$ - 250 lb/ac, co,sul,mn | _____ | 108 | 108 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 72 | 72 |
| Insecticides | _____ | 45 | 45 |
| Fungicides | _____ | 174 | 174 |
| Sprout inhibitor | _____ | 22 | 22 |
| Pallet box repairs | _____ | 80 | 104 |
| Storage, repairs and maintenance | _____ | 24 | 31 |
| Storage, electricity | _____ | 17 | 17 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 103 | 120 |
| Fuel | _____ | 70 | 82 |
| Interest on operating capital | _____ | 28 | 28 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,356** | **1,459** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 232 | 268 |
| Interest on investment | _____ | 155 | 179 |
| Other overhead | _____ | 100 | 100 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **487** | **547** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($188.40 per ton)[c] | _____ | 3,580 | 4,653 |
| Total Variable Costs | _____ | 1,356 | 1,459 |
| Gross Margin (no land costs reflected) | _____ | 2,224 | 3,194 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 5 year average price for 1986-1990

**Table 30.--Yellow Seed Onions on Muck Soils: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Discing (2x) | 0.66 | 5.44 | 5.48 | 7.22 | 18.14 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.76 | 2.75 |
| Spraying (17x) | 4.48 | 37.03 | 34.85 | 53.38 | 125.26 |
| Planting | 0.66 | 5.44 | 25.31 | 125.79 | 156.54 |
| Hand hoeing | 9.00 | 65.25 | - | - | 65.25 |
| **LOWER YIELD (19.0 tons/ac)** | | | | | |
| Harvesting | 13.62 | 105.04 | 40.04 | 128.21 | 273.29 |
| Loading and hauling to market | 4.75 | 39.19 | 54.90 | 71.32 | 165.41 |
| **HIGHER YIELD (24.7 tons/ac)** | | | | | |
| Harvesting | 17.71 | 136.55 | 52.05 | 166.67 | 355.27 |
| Loading and hauling to market | 6.18 | 50.95 | 71.37 | 92.72 | 215.04 |

* Fixed costs include depreciation and interest on investment

**Table 31.--Cabbage for Processing: Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 13.6 tons | Yield[b] 17.7 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 17.1 hrs/19.4 hrs | _____ | 124 | 141 |
| Machine operator, 7.4 hrs/8.2 hrs | _____ | 61 | 68 |
| Plants (supplied by processor) | _____ | -- | -- |
| Fertilizer, N - 185 lb/ac; $P_2O_5$ - 201 lb/ac; $K_2O$ - 100 lb/ac | _____ | 146 | 146 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 5 | 5 |
| Insecticides | _____ | 67 | 67 |
| Custom hauling ($11.00/ton) | _____ | 150 | 195 |
| Marketing fee ($0.68/ton) | _____ | 9 | 12 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 28 | 31 |
| Fuel | _____ | 28 | 31 |
| Interest on operating capital | _____ | 13 | 13 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **636** | **704** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 30 | 32 |
| Interest on investment | _____ | 20 | 22 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **90** | **94** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($56.68 per ton)[c] | _____ | 771 | 1,003 |
| Total Variable Costs | _____ | 636 | 704 |
| Gross Margin (no land cost reflected) | _____ | 135 | 299 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] Average of negotiated price for early and late cabbage

**Table 32.--Cabbage for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Cultivate & incorporate (2x) | 0.30 | 2.40 | 4.14 | 5.42 | 11.96 |
| Haul plants and water | 0.21 | 1.74 | 0.75 | 0.71 | 3.20 |
| Planting | 10.98 | 81.58 | 13.36 | 11.26 | 106.20 |
| Spray insecticides (3x) | 0.78 | 6.54 | 2.05 | 2.54 | 11.13 |
| Row cultivate & sidedress fertilizer (2x) | 1.02 | 8.36 | 5.84 | 5.16 | 19.36 |
| **LOWER YIELD (13.6 tons/ac)** | | | | | |
| Harvesting and loading | 6.64 | 79.78 | 18.80 | 13.73 | 112.31 |
| Custom hauling at $11.00 per ton | | | | | |
| **HIGHER YIELD (17.7 tons/ac)** | | | | | |
| Harvesting and loading | 8.63 | 103.71 | 24.44 | 17.85 | 146.00 |
| Custom hauling at $11.00 per ton | | | | | |

* Fixed costs include depreciation and interest on investment

**Table 33.--Cucumbers for Processing: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 9.1 tons | Yield[b] 11.8 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 179.0 hrs/230.6 hrs | _____ | 1,298 | 1,672 |
| Machine operator, 5.7 hrs/6.4 hrs | _____ | 47 | 53 |
| Seed, 2.5 lb/ac | _____ | 33 | 33 |
| Fertilizer, N - 135 lb/ac; $P_2O_5$ - 84 lb/ac; $K_2O$ - 84 lb/ac | _____ | 92 | 92 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Insecticides | _____ | 19 | 19 |
| Fungicides | _____ | 57 | 57 |
| Crop insurance | _____ | 26 | 26 |
| Marketing fees ($2.79/ton) | _____ | 25 | 33 |
| Bee rental | _____ | 27 | 27 |
| Use of picking baskets | _____ | 36 | 36 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 22 | 24 |
| Fuel | _____ | 17 | 18 |
| Interest on operating capital | _____ | 6 | 6 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,710** | **2,101** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 26 | 28 |
| Interest on investment | _____ | 17 | 18 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **83** | **86** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($242.89 per ton)[c] | _____ | 2,210 | 2,866 |
| Total Variable Costs | _____ | 1,710 | 2,101 |
| Gross Margin (no land costs reflected) | _____ | 500 | 765 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 1991 average price for graded cucumbers

**Table 34.--Cucumbers for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Cultivate (2x) | 0.30 | 2.40 | 4.46 | 6.40 | 13.26 |
| Planting | 0.33 | 2.72 | 3.29 | 4.43 | 10.44 |
| Row cultivating (2x) | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| Hand hoeing | 7.00 | 50.75 | - | - | 50.75 |
| Spray insecticides (2x) | 0.52 | 4.36 | 4.10 | 5.08 | 13.54 |
| Spray fungicides (3x) | 0.79 | 6.53 | 6.17 | 7.61 | 20.31 |
| **LOWER YIELD (9.1 tons/ac)** | | | | | |
| Harvesting | 170.66 | 1,237.95 | 2.35 | 2.17 | 1,242.47 |
| Loading and hauling to market | 3.98 | 30.83 | 7.06 | 6.51 | 44.40 |
| **HIGHER YIELD (11.8 tons/ac)** | | | | | |
| Harvesting | 221.86 | 1,609.34 | 3.06 | 2.82 | 1,837.08 |
| Loading and hauling to market | 5.17 | 40.08 | 9.18 | 8.46 | 57.72 |

* Fixed costs include depreciation and interest on investment

**Table 35.--Green Peas for Processing: Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 1.6 tons | Yield[b] 2.1 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Machine operator, 1.3 hrs | _____ | 11 | 11 |
| Seed, 225 lb/ac | _____ | 106 | 106 |
| Fertilizer, N - 86 lb/ac; $P_2O_5$ - 44 lb/ac; $K_2O$ - 44 lb /ac | _____ | 50 | 50 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 21 | 21 |
| Custom spraying | _____ | 7 | 7 |
| Crop insurance | _____ | 33 | 33 |
| Grading and marketing fees ($4.19/ton) | _____ | 7 | 9 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 9 | 9 |
| Fuel | _____ | 6 | 6 |
| Interest on operating capital | _____ | 6 | 6 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **261** | **263** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 10 | 10 |
| Interest on investment | _____ | 6 | 6 |
| Other overhead | _____ | 25 | 25 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **41** | **41** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($250.20 per ton)[c] | _____ | 400 | 525 |
| Total Variable Costs | _____ | 261 | 263 |
| Gross Margin (no land cost reflected) | _____ | 139 | 262 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 1991 negotiated price for a tenderometer reading of 111-112

**Table 36.--Green Peas for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Cultivate (2x) | 0.30 | 2.40 | 4.46 | 6.40 | 13.26 |
| Haul seed | 0.21 | 1.74 | 0.75 | 0.71 | 3.20 |
| Planting | 0.20 | 1.63 | 2.23 | 2.71 | 6.57 |
| **LOWER YIELD (1.6 tons/ac)** | | | | | |
| Harvesting and hauling are done by the processor | | | | | |
| **HIGHER YIELD (2.1 tons/ac)** | | | | | |
| Harvesting and hauling are done by the processor | | | | | |

* Fixed costs include depreciation and interest on investment

**Table 37.--Green and Wax Beans for Processing: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 2.6 tons | Yield[b] 3.4 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Machine operator, 1.3 hrs/ac | _____ | 11 | 11 |
| Seed, 71 lb/ac | _____ | 115 | 115 |
| Fertilizer, N -33 lb/ac; $P_2O_5$ - 33 lb/ac; $K_2O$ -33 lb/ac | _____ | 27 | 27 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicide | _____ | 57 | 57 |
| Custom spraying | _____ | 7 | 7 |
| Crop Insurance | _____ | 40 | 40 |
| Marketing and grading fees ($2.53 per ton) | _____ | 7 | 9 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 10 | 10 |
| Fuel | _____ | 6 | 6 |
| Interest on operating capital | _____ | 7 | 7 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **292** | **294** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 10 | 10 |
| Interest on investment | _____ | 7 | 7 |
| Other overhead | _____ | 25 | 25 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **42** | **42** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($166.00/$158.00 per ton)[c] | _____ | 432 | 537 |
| Total Variable Costs | _____ | 292 | 294 |
| Gross Margin (no land cost reflected) | _____ | 140 | 243 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] Contracted prices for 1991 vary according to yield

**Table 38.--Green and Wax Beans for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Cultivate (2x) & incorporate | 0.30 | 2.40 | 4.14 | 5.42 | 11.96 |
| Planting | 0.22 | 1.85 | 3.24 | 4.53 | 9.62 |
| Row cultivate | 0.18 | 1.52 | 1.32 | 1.23 | 4.07 |
| **LOWER YIELD (2.6 tons/ac)** | | | | | |
| Harvesting and hauling are done by the processor | | | | | |
| **HIGHER YIELD (3.4 tons/ac)** | | | | | |
| Harvesting and hauling are done by the processor | | | | | |

* Fixed costs include depreciation and interest on investment

**Table 39.--Lima Beans for Processing: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 1.0 tons | Yield[b] 1.3 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Machine operator, 2.1 hrs | _____ | 18 | 18 |
| Seed, 24 lb/ac | _____ | 39 | 39 |
| Fertilizer, N - 39 lb/ac; $P_2O_5$ - 35 lb/ac; $K_2O$ - 35 lb/ac | _____ | 29 | 29 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 22 | 22 |
| Crop insurance | _____ | 38 | 38 |
| Marketing fees ($6.67 per ton) | _____ | 7 | 9 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 13 | 13 |
| Fuel | _____ | 9 | 9 |
| Interest on operating capital | _____ | 3 | 3 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **183** | **185** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 15 | 15 |
| Interest on investment | _____ | 10 | 10 |
| Other overhead | _____ | 25 | 25 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **50** | **50** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($467.00 per ton)[c] | _____ | 467 | 607 |
| Total Variable Costs | _____ | 183 | 185 |
| Gross Margin (no land cost reflected) | _____ | 284 | 422 |

[a] 5 year average yield 1986-1990
[b] 5 year average yield plus 30 percent
[c] Negotiated price for 1991 F.O.B. field

**Table 40.--Lima Beans for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Spray herbicides (2x) | 0.52 | 4.36 | 4.10 | 5.08 | 13.54 |
| Cultivate (2x) | 0.30 | 2.40 | 4.46 | 6.40 | 13.26 |
| Haul seed | 0.21 | 1.74 | 0.75 | 0.71 | 3.20 |
| Planting | 0.22 | 1.85 | 3.24 | 4.53 | 9.62 |
| Rotary hoe | 0.12 | 0.98 | 0.50 | 0.65 | 2.13 |
| Row cultivating | 0.18 | 1.52 | 1.63 | 1.44 | 4.59 |

**LOWER YIELD (1.0 tons/ac)**

Harvesting and hauling are done by the processor

**HiGHER YIELD (1.3 tons/ac)**

Harvesting and hauling are done by the processor

* Fixed costs include depreciation and interest on investment

**Table 41.--Peppers for Processing: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 5.3 tons | Yield[b] 6.9 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 73.1 hrs/90.2 hrs | _____ | 530 | 654 |
| Machine operator, 8.3 hrs/9.0 hrs | _____ | 68 | 74 |
| Plants, 11,000/ac | _____ | 220 | 220 |
| Fertilizer, N - 106 lb/ac; $P_2O_5$ - 150 lb/ac; $K_2O$ - 150 lb/ac; liquid starter - 20 l/ac | _____ | 116 | 116 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 7 | 7 |
| Insecticides | _____ | 64 | 64 |
| Allowance for use of picking baskets | _____ | 28 | 28 |
| Crop insurance | _____ | 78 | 78 |
| Marketing fees ($3.20 per ton) | _____ | 17 | 22 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 34 | 37 |
| Fuel | _____ | 31 | 34 |
| Interest on operating capital | _____ | 14 | 14 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,212** | **1,353** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 35 | 37 |
| Interest on investment | _____ | 24 | 26 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **99** | **103** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($266.80 per ton)[c] | _____ | 1,414 | 1,841 |
| Total Variable Costs | _____ | 1,212 | 1,353 |
| Gross Margin (no land costs reflected) | _____ | 202 | 488 |

[a] 5 year average yield 1986-1990
[b] 5 year average yield plus 30 percent
[c] 1990 average price (1991 price not available at printing)

**Table 42.--Peppers for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Spray herbicide | 0.26 | 2.18 | 2.05 | 2.54 | 6.77 |
| Cultivate (2x) | 0.30 | 2.40 | 4.46 | 6.40 | 13.26 |
| Haul plants and water | 0.21 | 1.74 | 1.14 | 0.86 | 3.74 |
| Planting | 10.98 | 81.58 | 13.36 | 11.26 | 106.20 |
| Row cultivate (2x) | 1.02 | 8.36 | 5.76 | 5.16 | 19.28 |
| Hand hoeing | 7.00 | 50.75 | - | - | 50.75 |
| Spray insecticides (5x) | 1.30 | 10.90 | 10.25 | 12.70 | 33.85 |
| **LOWER YIELD (5.3 tons/ac)** | | | | | |
| Harvesting | 54.61 | 396.49 | 4.56 | 2.89 | 403.94 |
| Loading and hauling to market | 4.83 | 36.72 | 13.68 | 8.67 | 59.07 |
| **HIGHER YIELD (6.9 tons/ac)** | | | | | |
| Harvesting | 70.99 | 515.44 | 5.93 | 3.76 | 525.13 |
| Loading and hauling to market | 6.28 | 47.74 | 17.78 | 11.27 | 76.79 |

* Fixed costs include depreciation and interest on investment

**Table 43.--Potatoes for Processing: Estimated Cost of Production, Ontario, 1990[a]**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[b] 12.0 tons | Yield[c] 15.6 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired and machine operator | _____ | 195 | 238 |
| Seed potatoes (and seed treatment) | _____ | 311 | 311 |
| Fertilizer, N - 223 lbs/ac; $P_2O_5$ - 156 lbs/ac; $K_2O$ - 206 lbs/ac | _____ | 170 | 170 |
| Herbicides | _____ | 58 | 58 |
| Insecticides | _____ | 50 | 50 |
| Fungicides | _____ | 40 | 40 |
| Marketing fees | _____ | 19 | 25 |
| Custom work & other misc.[d] | _____ | 26 | 26 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 109 | 132 |
| Fuel | _____ | 55 | 66 |
| Interest on operating capital | _____ | 80 | 80 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **1,113** | **1,196** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 93 | 109 |
| Interest on investment | _____ | 93 | 109 |
| Other overhead | _____ | 71 | 71 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **257** | **289** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($136.60 per ton) | _____ | 1,639 | 2,131 |
| Total Variable Costs | _____ | 1,113 | 1,196 |
| Gross Margin (no land cost reflected) | _____ | 526 | 935 |

[a] This budget is reproduced from "Cost of Producing Processing Potatoes" by Buth Associates, West Lorne, Ontario, January 1991. The 1991 budget should be available early 1992.
[b] Average yield recorded by Buth Associates for 1990
[c] Average yield plus 30 percent
[d] Other misc. includes inspection fees, trucking fees, cover crop seed and other materials

**Table 44.--Potatoes for Processing: Operation Costs, Ontario, 1990[a]**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed[b] Costs | |
| | -hours- | | -dollars per acre- | | |
| Fall disc (2x) | 0.29 | 2.40 | 3.63 | 4.40 | 10.43 |
| Plant cover crop | 0.20 | 1.63 | 2.23 | 2.71 | 6.57 |
| Spring plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Spray herbicides (2x) | 0.52 | 4.36 | 4.10 | 5.08 | 13.54 |
| Cultivate | 0.29 | 2.40 | 2.33 | 2.06 | 6.79 |
| Cut seed | 1.66 | 12.69 | 6.34 | 24.87 | 43.90 |
| Haul seed | 0.28 | 2.27 | 2.66 | 3.69 | 8.62 |
| Planting | 0.58 | 4.53 | 6.85 | 10.52 | 21.90 |
| Row cultivate | 0.29 | 2.40 | 1.41 | 1.84 | 5.65 |
| Hill | 0.29 | 2.40 | 1.41 | 1.84 | 5.65 |
| Spraying (6x) | 1.56 | 13.08 | 12.30 | 15.24 | 40.62 |
| **LOWER YIELD (12.0 tons/ac)** | | | | | |
| Harvesting | 8.64 | 68.16 | 59.26 | 65.59 | 193.01 |
| Loading and hauling to market | 8.95 | 73.84 | 54.69 | 41.94 | 170.47 |
| **HIGHER YIELD (15.6 tons/ac)** | | | | | |
| Harvesting | 11.23 | 88.61 | 77.03 | 85.27 | 250.91 |
| Loading and hauling to market | 11.64 | 95.99 | 71.10 | 54.52 | 221.61 |

[a] These costs are estimates based on the budgeting program of the Policy Analysis Branch and information provided by Buth Associates

[b] Fixed costs include depreciation and interest on investment

**Table 45.--Red Beets for Processing: Estimated Cost of Production, Ontario, 1991**

| | Your Farm | Cost per acre Yield[a] 14.0 tons | Yield[b] 18.2 tons |
|---|---|---|---|
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 4.1 hrs | _____ | 30 | 30 |
| Machine operator, 9.4 hrs/12.1 hrs | _____ | 78 | 100 |
| Seed, 22 lb/ac | _____ | 92 | 92 |
| Fertilizer, N - 101 lb/ac; $P_2O_5$ - 126 lb/ac; $K_2O$ - 90 lb/ac | _____ | 89 | 89 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 93 | 93 |
| Micronutrient sprays | _____ | 9 | 9 |
| Crop Insurance | _____ | 10 | 10 |
| Custom hauling ($16.50/ton) | _____ | 231 | 300 |
| Marketing fee ($1.11/ton) | _____ | 16 | 20 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 45 | 52 |
| Fuel | _____ | 34 | 39 |
| Interest on operating capital | _____ | 10 | 10 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **742** | **849** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 92 | 108 |
| Interest on investment | _____ | 61 | 71 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **193** | **219** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($88.81 per ton)[c] | _____ | 1,243 | 1,616 |
| Total Variable Costs | _____ | 742 | 849 |
| Gross Margin (no land charges reflected) | _____ | 501 | 767 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent
[c] 1990 average price (1991 not available at printing)

**Table 46.--Red Beets for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Cult./packer | 0.30 | 2.40 | 4.46 | 6.40 | 13.26 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Planting | 1.85 | 15.85 | 17.13 | 44.03 | 77.01 |
| Row cultivate, sidedress fertilizer | 0.31 | 2.58 | 1.87 | 1.75 | 6.20 |
| Row cultivate (2x) | 0.62 | 5.15 | 3.75 | 3.51 | 12.41 |
| Spray micronutrients (2x) | 0.51 | 2.18 | 2.05 | 2.54 | 6.77 |
| **LOWER YIELD (14.0 tons/ac)** | | | | | |
| Harvesting | 9.28 | 72.56 | 40.76 | 86.72 | 200.04 |
| Hauling to processor (custom @ $16.50/ton) | | | | | |
| **HIGHER YIELD (18.2 tons/ac)** | | | | | |
| Harvesting | 12.06 | 94.33 | 52.99 | 112.74 | 260.06 |
| Hauling to processor (custom @ $16.50/ton) | | | | | |

* Fixed costs include depreciation and interest on investment

**Table 47.--Sweet Corn for Processing: Estimated Cost of Production, Ontario, 1991**

| | Cost per acre | | |
|---|---|---|---|
| | Your Farm | Yield[a] 5.2 tons | Yield[b] 6.8 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Machine operator, 2.1 hrs/ac | _____ | 17 | 17 |
| Seed (provided by processor) | _____ | -- | -- |
| Fertilizer, N - 99 lb/ac; $P_2O_5$ - 60 lb/ac; $K_2O$ - 60 lb/ac | _____ | 57 | 57 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 23 | 23 |
| Trucking fee ($1.50 per ton) | _____ | 8 | 10 |
| Crop insurance | _____ | 15 | 15 |
| Marketing fee ($0.97 per ton) | _____ | 5 | 7 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 13 | 13 |
| Fuel | _____ | 9 | 9 |
| Interest on operating capital | _____ | 4 | 4 |
| Land rental | _____ | -- | -- |
| **TOTAL VARIABLE COSTS** | _____ | **156** | **160** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 15 | 15 |
| Interest on investment | _____ | 10 | 10 |
| Other overhead | _____ | 20 | 20 |
| Land ownership | _____ | -- | -- |
| **MEASURABLE FIXED COSTS** | _____ | **45** | **45** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($62.45 per ton) | _____ | 325 | 425 |
| Total Variable Costs | _____ | 156 | 160 |
| Gross Margin (no land costs reflected) | _____ | 169 | 265 |

[a] 5 year average yield for 1986-1990
[b] 5 year average yield plus 30 percent

**Table 48.--Sweet Corn for Processing: Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed[a] Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Cult/packer (2x) | 0.30 | 2.40 | 4.46 | 6.40 | 13.26 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Spray herbicide | 0.26 | 2.18 | 2.05 | 2.54 | 6.77 |
| Haul seed | 0.21 | 1.74 | 0.75 | 0.71 | 3.20 |
| Planting | 0.22 | 1.85 | 3.24 | 4.53 | 9.62 |
| Row cultivating | 0.18 | 1.52 | 1.63 | 1.44 | 4.59 |
| Stalk shredding | 0.30 | 2.60 | 2.27 | 3.60 | 8.37 |
| **LOWER YIELD (5.2 tons/ac)** | | | | | |
| Harvesting[b] | - | - | - | - | - |
| **HIGHER YIELD (6.8 tons/ac)** | | | | | |
| Harvesting[b] | - | - | - | - | - |

[a] Fixed costs include depreciation and interest on investment
[b] All harvesting is done by processors

**Table 49.--Tomatoes for Processing, (Hand Harvest): Estimated Cost of Production, Ontario, 1991**

| | Your Farm | Cost per acre Yield[a] 22.1 tons | Yield[b] 28.7 tons |
|---|---|---|---|
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 113.7 hrs/143.9 hrs | _____ | 824 | 1,043 |
| Machine operator, 8.2 hrs/9.1 hrs | _____ | 68 | 75 |
| Plants, 9,100/ac | _____ | 194 | 194 |
| Fertilizer, N - 88 lb/ac; $P_2O_5$ - 98 lb/ac; $K_2O$ - 239 lb/ac | _____ | 100 | 100 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 27 | 27 |
| Insecticides & fungicides (custom applied, materials included) | _____ | 144 | 144 |
| Picking baskets, 25/ac | _____ | 14 | 18 |
| Crop insurance | _____ | 35 | 35 |
| Grading and marketing fees | _____ | 40 | 52 |
| Custom hauling ($9.79/ton) | _____ | 216 | 281 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 43 | 50 |
| Fuel | _____ | 30 | 34 |
| Interest on operating capital | _____ | 37 | 37 |
| Land rental | _____ | - | - |
| **TOTAL VARIABLE COSTS** | _____ | **1,777** | **2,095** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 43 | 50 |
| Interest on investment | _____ | 29 | 34 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | - | - |
| **MEASURABLE FIXED COSTS** | _____ | **112** | **124** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($120.78 per ton)[c] | _____ | 2,669 | 3,466 |
| Total Variable Costs | _____ | 1,777 | 2,095 |
| Gross Margin (no land costs reflected) | _____ | 892 | 1,371 |

[a] Average yield for 1991 according to the Ontario Vegetable Growers' Marketing Board
[b] Average yield for 1991 pius 30 percent
[c] Top price for Option 3 less 1.4% for the productivity discount

**Table 50.--Tomatoes for Processing, (Hand Harvest): Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Cult/Packer | 0.15 | 1.20 | 2.23 | 3.20 | 6.63 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Spray herbicide | 0.15 | 1.20 | 2.23 | 3.20 | 6.63 |
| Haul water and plants | 1.53 | 12.63 | 7.79 | 5.85 | 26.27 |
| Planting | 10.98 | 81.58 | 9.71 | 10.93 | 102.22 |
| Row cultivate, sidedress fertilizer (2x) | 1.02 | 8.36 | 5.78 | 5.16 | 19.30 |
| Hand hoeing | 4.00 | 29.00 | - | - | 29.00 |
| **LOWER YIELD (22.1 tons/ac)** | | | | | |
| Harvesting and loading | 103.45 | 752.87 | 37.19 | 39.31 | 829.37 |
| Hauling to market (custom @ $9.79/ton) | - | - | - | - | - |
| **HIGHER YIELD (28.7 tons/ac)** | | | | | |
| Harvesting and loading | 134.49 | 978.73 | 48.35 | 51.10 | 1,078.18 |
| Hauling to market (custom @ $9.79/ton) | - | - | - | - | - |

* Fixed costs include depreciation and interest on investment

**Table 51.-- Tomatoes for Processing, (Machine Harvest): Estimated Cost of Production, Ontario, 1991**

| | | Cost per acre | |
|---|---|---|---|
| | Your Farm | Yield[a] 22.1 tons | Yield[b] 28.7 tons |
| | | - dollars - | |
| **VARIABLE COSTS** | | | |
| Labour: | | | |
| Hired, 33.5 hrs/39.3 hrs | _____ | 243 | 285 |
| Machine operator, 13.9 hrs/15.4 hrs | _____ | 115 | 127 |
| Plants, 12,500/ac | _____ | 280 | 280 |
| Fertilizer, N - 88 lb/ac; $P_2O_5$ - 98 lb/ac; $K_2O$ - 239 lb/ac | _____ | 100 | 100 |
| Fertilizer spreader rental | _____ | 5 | 5 |
| Herbicides | _____ | 27 | 27 |
| Insecticides | _____ | 21 | 21 |
| Fungicides | _____ | 60 | 60 |
| Other materials | _____ | 35 | 35 |
| Crop insurance | _____ | 35 | 35 |
| Custom Hauling ($9.79/ton) | _____ | 216 | 281 |
| Grading and marketing fees | _____ | 40 | 51 |
| Tractor and machine costs: | | | |
| Repairs and maintenance | _____ | 110 | 130 |
| Fuel | _____ | 70 | 82 |
| Interest on operating capital | _____ | 38 | 38 |
| Land rental | _____ | - | - |
| **TOTAL VARIABLE COSTS** | _____ | **1,395** | **1,557** |
| **FIXED COSTS** | | | |
| Tractor and machine costs: | | | |
| Depreciation | _____ | 112 | 131 |
| Interest on investment | _____ | 75 | 88 |
| Other overhead | _____ | 40 | 40 |
| Land ownership | _____ | - | - |
| **MEASURABLE FIXED COSTS** | _____ | **227** | **259** |
| **GROSS MARGIN ANALYSIS** | | | |
| Gross Income ($113.75 per ton)[c] | _____ | 2,514 | 3,265 |
| Total Variable Costs | _____ | 1,395 | 1,557 |
| Gross Margin (no land costs reflected) | _____ | 1,119 | 1,708 |

[a] Average yield for 1991 according to the Ontario Vegetable Growers' Marketing Board
[b] Average yield for 1991 plus 30 percent
[c] Average of top prices for options 4&7 (whole pack & paste) less 1.4% for the productivity discount

**Table 52.--Tomatoes for Processing, (Machine Harvest): Operation Costs, Ontario, 1991**

| Operation | Labour | Labour Costs | Machine Costs | | Total Costs |
|---|---|---|---|---|---|
| | | | Maintenance Fuel & Repairs | Fixed* Costs | |
| | -hours- | | -dollars per acre- | | |
| Plowing | 0.45 | 3.70 | 6.59 | 5.61 | 15.90 |
| Bed shaping (2x) | 0.96 | 7.84 | 6.48 | 10.06 | 24.38 |
| Spread fertilizer | 0.13 | 1.09 | 0.90 | 0.61 | 2.60 |
| Cultivate and spray | 0.66 | 5.45 | 11.87 | 13.54 | 30.86 |
| Haul plants and water | 1.53 | 12.63 | 7.79 | 5.85 | 26.27 |
| Planting | 10.98 | 81.58 | 14.72 | 13.16 | 109.46 |
| Row cultivate, sidedress fertilizer (2x) | 1.02 | 8.36 | 5.78 | 5.16 | 19.30 |
| Hand hoeing | 5.00 | 36.25 | - | - | 36.25 |
| Spraying (10x) | 2.20 | 21.80 | 20.50 | 25.40 | 67.70 |
| **LOWER YIELD (22.1 tons/ac)** | | | | | |
| Harvesting | 24.04 | 178.93 | 107.29 | 107.17 | 393.39 |
| Hauling to market (custom @ $9.79/ton) | - | - | - | - | - |
| **HIGHER YIELD (28.7 tons/ac)** | | | | | |
| Harvesting | 31.25 | 232.61 | 139.48 | 139.32 | 511.41 |
| Hauling to market (custom @ $9.79/ton) | - | - | - | - | - |

* Fixed costs include depreciation and interest on investment

**Appendix Table 1.-- Average Yields per Acre for Vegetables, Ontario, 1986-1990**

| Crop | Unit | 1986 | 1987 | 1988 | 1989 | 1990 | Avg. 5 Yr. |
|---|---|---|---|---|---|---|---|
| | | | | - '000 - | | | |
| Asparagus (f & p) | lb | 1.4 | 1.2 | 1.5 | 1.7 | 1.6 | 1.5 |
| Beans, green & wax (f) | lb | 3.9 | 3.8 | 3.7 | 3.4 | 2.8 | 3.5 |
| Beans, green & wax (p) | lb | 5.1 | 5.3 | 5.0 | 4.5 | 6.6 | 5.3 |
| Beans, Lima (p) | lb | 2.3 | 2.0 | 2.2 | 1.7 | 2.0 | 2.0 |
| Beets, bunching | lb | 16.1 | 10.7 | 11.3 | 12.5 | 15.3 | 13.2 |
| Beets, topped | lb | 26.0 | 28.7 | 29.6 | 31.8 | 38.9 | 31.0 |
| Broccoli (f & p) | lb | 7.2 | 7.4 | 5.5 | 6.8 | 5.7 | 6.5 |
| Brussels Sprouts | lb | 4.2 | 4.3 | 4.4 | 4.5 | 3.7 | 4.2 |
| Cabbage | lb | 25.0 | 27.8 | 20.9 | 21.0 | 26.0 | 24.1 |
| Carrots, bunching | lb | 8.2 | 10.9 | 8.8 | 8.0 | 6.3 | 8.4 |
| Carrots, topped (f & p) | lb | 43.3 | 49.6 | 49.9 | 46.9 | 56.3 | 49.2 |
| Cauliflower (f & p) | lb | 20.1 | 18.9 | 9.1 | 9.3 | 14.4 | 14.4 |
| Celery (f & p) | lb | 53.1 | 64.3 | 79.4 | 73.2 | 48.2 | 63.6 |
| Corn, sweet (f) | dz | 0.8 | 0.8 | 0.7 | 0.8 | 0.8 | 0.8 |
| Corn, sweet (p) | lb | 10.4 | 11.4 | 8.5 | 10.3 | 9.7 | 10.1 |
| Cucumber (f) | lb | 10.5 | 9.5 | 11.7 | 14.2 | 11.9 | 11.6 |
| Cucumber (p) | lb | 19.5 | 17.4 | 17.2 | 18.6 | 18.1 | 18.2 |
| Lettuce, head (f) | dz | 1.2 | 1.3 | 0.8 | 0.8 | 1.4 | 1.1 |
| Onions, bunching | lb | 13.0 | 13.4 | 12.9 | 13.5 | 10.2 | 12.6 |
| Onions, dry sets | lb | 18.2 | 20.9 | 11.9 | 10.6 | 14.0 | 15.1 |
| Onions, dry silverskin | lb | 7.0 | 10.3 | 8.7 | 9.5 | 9.8 | 9.1 |
| Onions, dry Spanish | lb | 26.9 | 25.9 | 12.1 | 11.2 | 10.1 | 17.2 |
| Onions, dry yellowskin | lb | 36.1 | 37.6 | 36.8 | 39.4 | 40.7 | 38.1 |
| Parsnips | lb | 17.5 | 17.3 | 11.3 | 11.9 | 14.0 | 14.4 |
| Peas, green (p) | lb | 3.4 | 3.1 | 2.2 | 3.4 | 3.9 | 3.2 |
| Peppers (f & p) | lb | 9.5 | 11.2 | 8.9 | 8.1 | 9.3 | 9.4 |
| Potatoes | lb | 20.4 | 18.7 | 14.4 | 17.2 | 22.3 | 18.6 |
| Pumpkin & Squash | lb | 27.9 | 27.1 | 22.7 | 23.9 | 17.6 | 23.8 |
| Radishes | lb | 11.5 | 10.2 | 7.9 | 9.6 | 8.9 | 9.6 |
| Rutabagas | lb | 32.5 | 30.4 | 23.8 | 25.9 | 37.7 | 30.1 |
| Spinach | lb | 5.5 | 8.0 | 6.9 | 7.2 | 5.4 | 6.6 |
| Tomatoes (f) | lb | 27.7 | 18.9 | 19.6 | 20.7 | 17.5 | 20.9 |
| Tomatoes (p) | lb | 39.1 | 40.1 | 36.2 | 39.3 | 44.4 | 39.8 |

Note: (f) fresh; (f & p) fresh & processing; (p) processing;
n/a not available

Source: Seasonal Fruit and Vegetable Report, Annual Summary, Policy Analysis Branch, Ontario Ministry of Agriculture and Food.

**Appendix Table 2.-- Average Prices per Unit for Vegetables, Ontario, 1986-1990**

| Crop | Unit | 1986 | 1987 | 1988 | 1989 | 1990 | Avg. 5 Yr. |
|---|---|---|---|---|---|---|---|
| | | | | - cents - | | | |
| Asparagus (f & p) | lb | 96.0 | 94.4 | 98.7 | 94.1 | 99.6 | 96.6 |
| Beans, green & wax (f) | lb | 38.4 | 34.4 | 46.1 | 48.8 | 32.1 | 40.0 |
| Beans, green & wax (p) | lb | 10.9 | 10.9 | 11.2 | 11.7 | 11.5 | 11.2 |
| Beans, Lima (p) | lb | 24.4 | 24.4 | 25.1 | 26.7 | 27.6 | 25.6 |
| Beets, bunching | lb | 33.7 | 44.3 | 59.1 | 55.8 | 65.1 | 51.6 |
| Beets, topped | lb | 5.8 | 5.3 | 8.9 | 10.0 | 10.3 | 8.1 |
| Broccoli (f & p) | lb | 38.1 | 34.3 | 41.6 | 32.0 | 37.1 | 36.6 |
| Brussels Sprouts | lb | 41.6 | 59.2 | 47.2 | 47.0 | 51.9 | 49.4 |
| Cabbage (f & p) | lb | 11.6 | 11.4 | 12.4 | 12.8 | 10.3 | 11.7 |
| Carrots, bunching | lb | 24.4 | 29.5 | 33.9 | 42.9 | 32.6 | 32.7 |
| Carrots, topped (f & p) | lb | 7.0 | 4.7 | 4.3 | 6.0 | 4.6 | 5.3 |
| Cauliflower (f & p) | lb | 19.8 | 21.0 | 26.3 | 25.0 | 25.1 | 23.4 |
| Celery (f & p) | lb | 10.4 | 8.6 | 10.2 | 10.5 | 6.8 | 9.3 |
| Corn, sweet (f) | dz | 128.0 | 128.2 | 168.6 | 191.6 | 183.4 | 160.0 |
| Corn, sweet (p) | lb | 3.3 | 3.8 | 3.5 | 3.8 | 3.9 | 3.7 |
| Cucumber (f) | lb | 17.5 | 21.4 | 20.1 | 22.7 | 25.5 | 21.4 |
| Cucumber (p) | lb | 10.2 | 9.4 | 10.0 | 11.4 | 11.9 | 10.6 |
| Cucumber, greenhouse | dz | 535.6 | 449.0 | 554.0 | 492.4 | 436.7 | 493.5 |
| Lettuce (f) | dz | 321.0 | 330.4 | 289.8 | 300.0 | 282.3 | 304.7 |
| Onions, bunching | lb | 41.7 | 49.8 | 52.3 | 48.9 | 59.5 | 50.4 |
| Onions, dry sets | lb | 15.9 | 12.4 | 23.7 | 17.6 | 19.5 | 17.8 |
| Onions, dry, silverskin | lb | 35.1 | 33.5 | 56.8 | 42.5 | 42.3 | 42.0 |
| Onions, dry, spanish | lb | 14.6 | 14.4 | 16.7 | 13.3 | 14.6 | 14.7 |
| Onions, dry, yellowskin | lb | 11.6 | 11.3 | 9.5 | 9.0 | 6.1 | 9.5 |
| Parsnips | lb | 15.2 | 16.2 | 20.6 | 20.0 | 18.3 | 18.1 |
| Peas, green (p) | lb | 16.5 | 16.5 | 16.0 | 18.6 | 18.5 | 17.2 |
| Peppers (f & p) | lb | 21.9 | 18.9 | 23.7 | 20.0 | 35.6 | 24.0 |
| Potatoes | lb | 9.0 | 6.7 | 7.8 | 8.2 | 5.7 | 7.5 |
| Pumpkin & Squash | lb | 1.8 | 1.8 | 2.0 | 2.1 | 2.3 | 2.0 |
| Radishes | lb | 26.9 | 31.5 | 36.3 | 34.0 | 32.8 | 32.3 |
| Rutabagas | lb | 4.9 | 7.4 | 8.3 | 7.5 | 7.4 | 7.1 |
| Spinach | lb | 31.2 | 30.1 | 31.9 | 33.7 | 38.1 | 33.0 |
| Tomatoes (f) | lb | 27.0 | 21.7 | 21.8 | 22.7 | 21.8 | 23.0 |
| Tomatoes, greenhouse | lb | 75.8 | 61.5 | 55.5 | 68.6 | 44.1 | 61.1 |
| Tomatoes (p) | lb | 5.6 | 5.2 | 5.6 | 5.6 | 5.4 | 5.5 |

Note: (f) fresh; (f & p) fresh & processing; (p) processing;
n/a not available

Source: Seasonal Fruit and Vegetable Report, Annual Summary, Policy Analysis Branch, Ontario Ministry of Agriculture and Food